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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,492	09/15/2003	Albert E. Ortega	CRX.106XC1	9209
23557 7590 03/31/2011 SALIWANCHIK, LLOYD & EISENSCHENK A PROFESSIONAL ASSOCIATION PO Box 142950 GAINESVILLE, FL 32614			EXAMINER BUTLER, PATRICK NEAL	
			ART UNIT 1742	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

euspto@uspatents.com

Office Action Summary

Application No.

10/662,492

Applicant(s)

ORTEGA, ALBERT E.

Examiner

Patrick Butler

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-11, 13-20, 22, 23, 25-28 and 35-40 is/are pending in the application.
- 4a) Of the above claim(s) 7-9, 22, 23 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 10, 11, 13-20, 25, 26, 28 and 35-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5, 10, 11, 13-20, 25, 26, 28, and 35-40 are rejected under 35

U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With respect to Claims 1, 17, 35, and 37, the limitation in Claim 1, lines 19 and 20; Claim 17, lines 21 and 22; and Claim 35, lines 16 and 17 of "wherein the at least one antistatic agent does not cause a defect in the spunbonded nonwoven fabric" and the limitation in Claim 37, lines 8 and 9, of "wherein the at least one antistatic agent does not cause a defect in a spunbonded nonwoven fabric produced by the spunbond process" are not supported by the application as originally filed. The limitations appear to indicate that no defect would be produced in fabric due to antistatic agent. Although the Specification indicates that defects are not desired, Applicant's invention pertains to a process that produces less defects than a process that produces more defects (see

Specification, p. 3, l. 30 through p. 4, l. 3) which is not equivalent to providing a process that eliminates defects in a process having an antistatic agent. Claims 2-5, 10, 11, 13-16, 18-20, 25, 26, 28, 36, and 38-40 are rejected via their dependency.

Claims 1-5, 10, 11, 13-20, 25, 26, 28, and 35-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to Claims 1, 17, 35, and 37, the limitation in Claim 1, lines 19 and 20; Claim 17, lines 21 and 22; and Claim 35, lines 16 and 17 of "wherein the at least one antistatic agent does not cause a defect in the spunbonded nonwoven fabric" and the limitation in Claim 37, lines 8 and 9, of "wherein the at least one antistatic agent does not cause a defect in a spunbonded nonwoven fabric produced by the spunbond process" are unclear as to what would constitute a defect. Specifically, a defect is an undesired result, which requires the desired result to not be met. The Examiner relies upon Applicant's Specification to provide for such guidance related to the desired result. However, Applicant's invention pertains to a process that produces less defects than a process that produces more defects (see Specification, p. 3, l. 30 through p. 4, l. 3). In lieu of defining a defect by having the claimed process recite differences to a second process by using imparting limitations from the Specification or by adding claim language referring to a second process, the Examiner notes that defects are illustrated by Applicant's discussion of static being outside specific ranges (see Specification, p. 9, ll. 10-14). Therefore, for purposes of examination, the Examiner assumes the limitation

as being "wherein the at least one antistatic agent does not cause a defect in a spunbonded nonwoven fabric produced by the spunbond process to the extent that the static level measured at about one half inch below the outlet of the slot attenuation device is between -2 and $2^{kV}/in$ ". Claims 2-5, 10, 11, 13-16, 18-20, 25, 26, 28, 36, and 38-40 are rejected via their dependency.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 37-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Gillespie (U.S. Patent No. 5,783,503) as evidenced by Tortora (*Understanding Textiles*, pages 38, 39, and 401).

With respect to Claim 37-40, Gillespie teaches producing a spunbond product (spunbond nonwoven fabric; bonding the filaments of the web) by originating filaments from a spinneret (extruding), attenuating and drawing the filaments through a slot draw apparatus, and depositing the filaments onto a collection surface to form a web (see Fig. 4; col. 3, lines 16-34 and col. 9, lines 18-26). Gillespie teaches using combinations including nylon and polyester (see Gillespie, col. 4, lines 66 - col. 5, line 25). Increases in moisture absorbency increase fiber conductivity, which is antistatic since it limits static buildup, and nylon's or polyester's presence would improve the absorbency of the blend since they have 0.4-4.5% standard moisture regain (see Tortora, *Understanding*

Textiles, pages 38 and 39, Table 2.1, and page 401, second paragraph). Thus, nylon's or polyester's presence acts as antistatic agents to the polyester or olefins in the blends.

Gillespie would necessarily teach the claimed results of minimizing defects by having a static level measured at about one half inch below the outlet of the slot attenuation device of -2 to $2^{kV/in}$ as claimed in Claim 37, minimizing defects by having a static level measured at about one half inch below the outlet of the slot attenuation device of -1 to $1^{kV/in}$ as claimed in Claims 38 and 40, and minimizing defects by reducing the static level measured at about one half inch below the outlet of the slot attenuation device from greater than 4 or less than $-4^{kV/in}$ as claimed in Claim 39 principally because Gillespie teaches each of the claimed process steps.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 13-15, 17-20, 25, 26, and 35-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gillespie (U.S. Patent No. 5,783,503) in view of Tortora (*Understanding Textiles*, pages 38, 39, 153-157, 330, 401, and 402).

With respect to Claims 1, 35, and 37, Gillespie teaches producing a spunbond product (spunbond nonwoven fabric; bonding the filaments of the web) by originating filaments from a spinneret (extruding), attenuating and drawing the filaments through a slot draw apparatus, and depositing the filaments onto a collection surface to form a

web (see Fig. 4; col. 3, lines 16-34 and col. 9, lines 18-26). Gillespie teaches using combinations including nylon and polyester (see Gillespie, col. 4, lines 66 - col. 5, line 25). Increases in moisture absorbency increase fiber conductivity, which is antistatic since it limits static buildup, and nylon's or polyester's presence would improve the absorbency of the blend since they have 0.4-4.5% standard moisture regain (see Tortora, *Understanding Textiles*, pages 38 and 39, Table 2.1, and page 401, second paragraph). Thus, nylon's or polyester's additional presence acts as antistatic agents to the polyester or olefins in the blends. Gillespie teaches that the filaments are bonded by calendaring and hot through-air methods (see col. 7, lines 29-37), which would either heat the filaments to the point of melting or collect the filaments at the point of melting, respectively. Moreover, spunbonding is necessarily done by bonding the filaments while they are partially molten (see Tortora, *Understanding Textiles*, page 330, first paragraph), and Gillespie's nylon 6 and polypropylene (see col. 8, lines 45-53) are molten above 212 and 163 °C (see Tortora, *Understanding Textiles*, page 38 and 39, Table 2.1).

If not otherwise expressed by Gillespie in view of Tortora to bond the fibers thermally within the claimed range (e.g., between 180 and about 250 °C), in this regard, Gillespie teaches that the filaments are bonded by calendaring and hot through-air methods (see col. 7, lines 29-37), which would either heat the filaments to the point of melting or collect the filaments at the point of melting, respectively, and Tortora teaches spunbonding done by bonding the filaments while they are partially molten (see Tortora, *Understanding Textiles*, page 330, first paragraph). As such, Gillespie in view of

Tortora recognizes that the bonding temperature is a result-effective variable. Since bonding temperature is a result-effective variable, one of ordinary skill in the art would have obviously been motivated to determine the optimum bonding temperature applied in the process of Gillespie in view of Tortora through routine experimentation based upon allowing the nylon 6 to be sufficiently heated to bond, which would be at least its molten temperature of 212 °C.

If Gillespie's nylon and polyester do not meet the claimed limitation of "antistatic agent" (see col. 4, lines 66 - col. 5, line 25), then Gillespie does teach to incorporate into the polymer melt components to control electrical properties (forming in an extruder) (see col. 5, lines 35-42).

Tortora teaches that bicomponent fibers contain metal or carbon, which are antistatic agents (see page 401, forth paragraph, through page 402, line 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Tortora's antistatic metal or carbon in the composition of fibers taught by Gillespie in order to produce fibers that decrease static buildup (see Tortora, page 401, paragraphs 2-4), in order to control electrical properties (see Gillespie col. 5, lines 35-42), and because Gillespie teaches producing a desired product by combining polymers in the melt blend (see Gillespie, col. 4, lines 66 - col. 5, line 25).

Gillespie in view of Tortora would necessarily teach the claimed result of minimizing defects by reducing the static level measured at about one half inch below the outlet of the slot attenuation device from greater than 2 or less than -2^{kV}_{in} to having

a static level measured at about one half inch below the outlet of the slot attenuation device of -2 to $2^{kV/in}$ as claimed principally because Gillespie teaches each of the claimed process steps.

With respect to Claims 2 and 4, Gillespie teaches using nylon, polyester, PE, PP, and PBT and combinations, which read on the claims (see Gillespie, col. 4, lines 66-col. 5, line 25).

With respect to Claim 3, Gillespie teaches using "nylon ... and copolymers thereof" (see col. 5, lines 5-8), which reads on the claim language "nylon copolymers," which meets the limitations of the claim.

Moreover, with respect to Claim 3, Tortora teaches that nylon 6 has a higher tenacity than nylon 6,6 (see page 156, *Strength* section). It would have been obvious to one of ordinary skill in the art at the time the invention was made to select nylon 6 as the nylon to use in Gillespie in order to have greater tenacity.

With respect to Claim 5, Gillespie would necessarily teach the claimed result of reducing the static level measured at about one half inch below the outlet of the slot attenuation device from greater than 4 or less than $-4^{kV/in}$ as claimed principally because Gillespie teaches each of the claimed process steps.

With respect to Claims 13, 36, and 38, Gillespie would necessarily teach the claimed result of having a static level measured at about one half inch below the outlet of the slot attenuation device of -1 to $1^{kV/in}$ as claimed principally because Gillespie teaches each of the claimed process steps positively recited.

With respect to Claims 14 and 15, nylon is one of the components in the bicomponent filament (see col. 4, lines 66 through col. 5, line 17). In a side-by-side configuration (see Fig. 3; see col. 5, line 66 through col. 6, line 4), the bicomponent filament would necessarily have at least one of the two components with more than 5% of the surface area. Moreover, if both components were nylon as taught by Gillespie (see col. 5, lines 33-42), nylon would occupy 100% of the surface area of each filament, which includes the claimed range of at least about 5%.

With respect to Claim 17, Gillespie further teaches producing a spunbond product (spunbond nonwoven fabric; bonding the filaments of the web) by originating filaments from a spinneret using blends in separate extruders to form filament with one of the blends forming a portion of the surface of the filaments, attenuating and drawing the filaments through a slot draw apparatus, and depositing the filaments onto a collection surface to form a web (see Fig. 3 and 4; col. 3, lines 16-34; col. 5, line 66 through col. 6, line 9; col. 8, lines 8-19; and col. 9, lines 18-26).

With respect to Claim 18, Gillespie teaches using nylon, polyester, PE, PP, and PBT and combinations, which read on the claims (see Gillespie, col. 4, line 66 through col. 5, line 25).

With respect to Claim 19, Gillespie teaches using "nylon ... and copolymers thereof" (see col. 5, lines 5-8, which reads on the claim language "nylon copolymers," which meets the limitations of the claim.

Moreover, with respect to Claim 19, Tortora teaches that nylon 6 has a higher tenacity than nylon 6,6 (see page 156, *Strength* section). It would have been obvious to

one of ordinary skill in the art at the time the invention was made to select nylon 6 as the nylon to use in Gillespie in order to have greater tenacity.

With respect to Claims 20 and 39, Gillespie would necessarily teach the claimed result of reducing the static level measured at about one half inch below the outlet of the slot attenuation device from greater than 4 or less than -4 kV/in as claimed principally because Gillespie teaches each of the claimed process steps.

With respect to Claims 25 and 40, Gillespie would necessarily teach the claimed result of having a static level measured at about one half inch below the outlet of the slot attenuation device of -1 to 1 kV/in as claimed principally because Gillespie teaches each of the claimed process steps positively recited.

With respect to Claim 26, Gillespie teaches that at least about 5 percent of the surface area of each filament is made of a nylon polymer (see Fig. 3; see col. 5, line 66 through col. 6, line 4). Nylon is one of the components in the bicomponent filament (see col. 4, lines 66 through col. 5, line 17). In a side-by-side configuration (see Fig. 3; see col. 5, line 66 through col. 6, line 4), the bicomponent filament would necessarily have at least one of the two components with more than 5% of the surface area. Moreover, if both components were nylon as taught by Gillespie (see col. 5, lines 33-42), nylon would occupy 100% of the surface area of each filament, which includes the claimed range of at least about 5%.

Claims 1-5, 10, 11, 13-20, 25, 26, 28, and 35-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gillespie (U.S. Patent No. 5,783,503) in view of Tortora (*Understanding Textiles*, pages 38, 39, 153-157, 330, 401, and 402).and in

further view of either Warburton (US Patent No. 4,081,383) or George (US Patent No. 4,167,464).

With respect to Claims 1, 35, and 37, Gillespie teaches producing a spunbond product (spunbond nonwoven fabric; bonding the filaments of the web) by originating filaments from a spinneret (extruding), attenuating and drawing the filaments through a slot draw apparatus, and depositing the filaments onto a collection surface to form a web (see Fig. 4; col. 3, lines 16-34 and col. 9, lines 18-26). Gillespie teaches that the filaments are bonded by calendaring and hot through-air methods (see col. 7, lines 29-37), which would either heat the filaments to the point of melting or collect the filaments at the point of melting, respectively. Moreover, spunbonding is necessarily done by bonding the filaments while they are partially molten (see Tortora, *Understanding Textiles*, page 330, first paragraph), and Gillespie's nylon 6 and polypropylene (see col. 8, lines 45-53) are molten above 212 and 163 °C (see Tortora, *Understanding Textiles*, page 38 and 39, Table 2.1).

If not otherwise expressed by Gillespie in view of Tortora to bond the fibers thermally within the claimed range (e.g., between 180 and about 250 °C), in this regard, Gillespie teaches that the filaments are bonded by calendaring and hot through-air methods (see col. 7, lines 29-37), which would either heat the filaments to the point of melting or collect the filaments at the point of melting, respectively, and Tortora teaches spunbonding done by bonding the filaments while they are partially molten (see Tortora, *Understanding Textiles*, page 330, first paragraph). As such, Gillespie in view of Tortora recognizes that the bonding temperature is a result-effective variable. Since

bonding temperature is a result-effective variable, one of ordinary skill in the art would have obviously been motivated to determine the optimum bonding temperature applied in the process of Gillespie in view of Tortora through routine experimentation based upon allowing the nylon 6 to be sufficiently heated to bond, which would be at least its molten temperature of 212 °C.

If Gillespie's nylon (polycaprolactum) and polyester do not meet the claimed limitation of "antistatic agent" (see col. 4, lines 66 - col. 5, line 25), then Gillespie does teach to incorporate into the polymer melt components to control electrical properties (forming in an extruder) (see col. 5, lines 35-42).

Warburton teaches using a copolymer that contains sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) (see col. 4, line 60 through col. 5, line 6) and vinyl sulfonic acid (see col. 3, line 8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Warburton's copolymer composition in the extrusion of Gillespie in order to provide the product with better anti-soiling treatment, to control the anti-soiling treatment's polymer particle size (see Abstract and col. 4, lines 60 and 61), and because Gillespie teaches producing a desired product by combining polymers in the melt blend (see Gillespie, col. 4, lines 66 - col. 5, line 25).

Alternative to Warburton, George teaches using a copolymer that contains sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) or octadecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) (see col. 4, line 65 through col. 5, line 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use George's copolymer composition in the extrusion of Gillespie in order to provide the product with better degree of absorption of water and body fluids (see George, Abstract; col. 1, lines 46-49; and col. 6, lines 42-59) and because Gillespie teaches producing a desired product by combining polymers in the melt blend (see Gillespie, col. 4, lines 66 - col. 5, line 25).

Since Applicant's claim language (see Claim 16) shows that a blend containing polycaprolactum, sulfonic acid, a C₁₀-C₁₈ alkane, and sodium salts is an antistatic agent, Warburton's and George's teaching of the agent (as cited above) necessarily meets the claimed limitation of "antistatic agent." Moreover, Warburton recognizes the benefit of the polymer in reducing static build-up (see col. 6, lines 34-37).

Applicant's specification indicates that a composition of a polycaprolactum, sulfonic acid, a C₁₀-C₁₈ alkane, and sodium salts added to a two polymer delivery results in 0.6 ^{kV}/in when added at 1% concentration (see Specification, page 10, table 1).

As Warburton's composition teaches adding the sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) is present from 0.5-8% (see col. 5, lines 47-49), the 1% concentration is taught. As George's composition teaches adding the sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) is present from 0.01-5% (see col. 5, lines 47-49), the 1% concentration is taught. Therefore, Warburton's or George's agent would necessarily teach the claimed result of minimizing defects by reducing the static level measured at about one half inch below the outlet of the slot attenuation device from greater than 2 or

less than -2 kV/in to having a static level measured at about one half inch below the outlet of the slot attenuation device of -2 to 2 kV/in as claimed principally because it teaches the same process and composition as Applicant, which arrived at said static level.

With respect to Claims 2 and 4, Gillespie teaches using nylon, polyester, PE, PP, and PBT and combinations, which read on the claims (see Gillespie, col. 4, lines 66-col. 5, line 25).

With respect to Claim 3, Gillespie teaches using "nylon ... and copolymers thereof" (see col. 5, lines 5-8), which reads on the claim language "nylon copolymers," which meets the limitations of the claim.

With respect to Claim 5, Gillespie would necessarily teach the claimed result of reducing the static level measured at about one half inch below the outlet of the slot attenuation device from greater than 4 or less than -4 kV/in as claimed principally because Gillespie teaches each of the claimed process steps.

With respect to Claims 10, 11, 16, and 28, Claim 16's and Claim 28's antistatic agent of polycaprolactum, sulfonic acid, a $\text{C}_{10}\text{-C}_{18}$ alkane, and sodium salts is taught by Gillespie in view of Warburton or George as cited above with respect to Claim 1. Such antistatic agent was indicated to read on Claims 10 and 11 (see Office Action mailed 22 March 2006, page 3, third paragraph and Applicant's Arguments received 22 December 2006, page numbered 9 by Applicant, first paragraph).

With respect to Claims 13, 25, 38, and 40, Applicant's specification teaches that a composition of a polycaprolactum, sulfonic acid, a $\text{C}_{10}\text{-C}_{18}$ alkane, and sodium salts

added to a two polymer delivery results in 0.6 kV/in when added at 1% concentration (see Specification, page 10, table 1).

As Warburton's composition teaches adding the sodium salts (sodium salts) of dodecane-1-sulfonic acid (a $\text{C}_{10}\text{-C}_{18}$ alkane and sulfonic acid) is present from 0.5-8% (see col. 5, lines 47-49), the 1% concentration is taught. As George's composition teaches adding the sodium salts (sodium salts) of dodecane-1-sulfonic acid (a $\text{C}_{10}\text{-C}_{18}$ alkane and sulfonic acid) is present from 0.01-5% (see col. 5, lines 47-49), the 1% concentration is taught. Therefore, Warburton's or George's agent would have cause static level measured at about one half inch below the outlet of the slot attenuation device of -1 to 1 kV/in as claimed because Warburton or George teach the same process and composition as Applicant, which arrived at said static level.

With respect to Claims 14 and 15, nylon is one of the components in the bicomponent filament (see col. 4, lines 66 through col. 5, line 17). In a side-by-side configuration (see Fig. 3; see col. 5, line 66 through col. 6, line 4), the bicomponent filament would necessarily have at least one of the two components with more than 5% of the surface area. Moreover, if both components were nylon as taught by Gillespie (see col. 5, lines 33-42), nylon would occupy 100% of the surface area of each filament, which includes the claimed range of at least about 5%.

With respect to Claim 17, Gillespie further teaches producing a spunbond product (spunbond nonwoven fabric; bonding the filaments of the web) by originating filaments from a spinneret using blends in separate extruders to form filament with one of the blends forming a portion of the surface of the filaments, attenuating and drawing

the filaments through a slot draw apparatus, and depositing the filaments onto a collection surface to form a web (see Fig. 3 and 4; col. 3, lines 16-34; col. 5, line 66 through col. 6, line 9; col. 8, lines 8-19; and col. 9, lines 18-26).

With respect to Claim 18, Gillespie teaches using nylon, polyester, PE, PP, and PBT and combinations, which read on the claims (see Gillespie, col. 4, lines 66-col. 5, line 25).

With respect to Claim 19, Gillespie teaches using "nylon ... and copolymers thereof" (see col. 5, lines 5-8, which reads on the claim language "nylon copolymers," which meets the limitations of the claim.

With respect to Claims 20, 36, and 39, Applicant's specification teaches that a composition of a polycaprolactum, sulfonic acid, a C₁₀-C₁₈ alkane, and sodium salts added to a two polymer delivery results in 0.6 ^{kV}/in when added at 1% concentration (see Specification, page 10, table 1).

As Warburton's composition teaches adding the sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) is present from 0.5-8% (see col. 5, lines 47-49), the 1% concentration is taught. As George's composition teaches adding the sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) is present from 0.01-5% (see col. 5, lines 47-49), the 1% concentration is taught. Therefore, Warburton's or George's agent would reduce the static level measured at about one half inch below the outlet of the slot attenuation device from greater than 4 or less than -4 ^{kV}/in as claimed because Warburton or George teach the same process and composition as Applicant, which arrived at said static level.

With respect to Claim 26, Gillespie teaches that at least about 5 percent of the surface area of each filament is made of a nylon polymer (see Fig. 3; see col. 5, line 66 through col. 6, line 4). Nylon is one of the components in the bicomponent filament (see col. 4, lines 66 through col. 5, line 17). In a side-by-side configuration (see Fig. 3; see col. 5, line 66 through col. 6, line 4), the bicomponent filament would necessarily have at least one of the two components with more than 5% of the surface area. Moreover, if both components were nylon as taught by Gillespie (see col. 5, lines 33-42), nylon would occupy 100% of the surface area of each filament, which includes the claimed range of at least about 5%.

Declaration

The declaration under 37 CFR 1.132 filed 6 December 2010 is insufficient to overcome the rejection of claims 1-5, 10, 11, 13-20, 25, 26, 28, and 35-40 based upon the references applied under 35 U.S.C. 103 as set forth in the last Office Action.

The affidavit under 37 CFR 1.132 filed 6 December 2010 refers only to the system described in the above referenced application and not to the individual claims of the application. Thus, there is no showing that the objective evidence of nonobviousness is commensurate in scope with the claims. See MPEP § 716.

Indications of the declaration under 37 CFR 1.132 filed 6 December 2010 appear to be on the grounds that:

A) Metal or carbon added in a spunbonded process would cause changing the color which would be a defect, and the described method does not cause the defect.

B) Page 2 of the Office Action mailed 6 August 2010 appears to rely on nylon's moisture regain to dissipate static in a spunbonded process. However, water is not provided in the claimed process.

C) The claimed limitation of bonding at between 180 and about 250 °C would not be suitable for a polyolefin fabric, which is acknowledge by Gillespie. Specifically, Applicant relies upon evidence that extrusion of a polyolefin resin is usually done at 100-140 °C.

D) Gillespie's teaching of controlling splittable fibers may not be relied upon to combine using an anti-static agent.

E) Reliance upon selection between nylon 6 and nylon 6,6 based upon the greater tenacity of nylon 6 does not necessarily result in greater tenacity of the fabric.

The indications of the declaration are addressed as follows:

A) Regarding a defect being an undesired result, Applicant's assertion that color change is exclusively a defect is not provided Applicant's Specification. As recited above:

With respect to Claims 1, 17, 35, and 37, the limitation in Claim 1, lines 19 and 20; Claim 17, lines 21 and 22; and Claim 35, lines 16 and 17 of "wherein the at least one antistatic agent does not cause a defect in the spunbonded nonwoven fabric" and the limitation in Claim 37, lines 8 and 9, of "wherein the at least one antistatic agent does not cause a defect in a spunbonded nonwoven fabric produced by the spunbond process" are not supported by the application

as originally filed. The limitations appear to indicate that no defect would be produced in fabric due to antistatic agent. Although the Specification indicates that defects are not desired, Applicant's invention pertains to a process that produces less defects than a process that produces more defects (see Specification, p. 3, l. 30 through p. 4, l. 3) which is not equivalent to providing a process that eliminates defects in a process having an antistatic agent. Claims 2-5, 10, 11, 13-16, 18-20, 25, 26, 28, 36, and 38-40 are rejected via their dependency.

A) As recited above, the definition of defect is relative to the desired outcome:

With respect to Claims 1, 17, 35, and 37, the limitation in Claim 1, lines 19 and 20; Claim 17, lines 21 and 22; and Claim 35, lines 16 and 17 of "wherein the at least one antistatic agent does not cause a defect in the spunbonded nonwoven fabric" and the limitation in Claim 37, lines 8 and 9, of "wherein the at least one antistatic agent does not cause a defect in a spunbonded nonwoven fabric produced by the spunbond process" are unclear as to what would constitute a defect. Specifically, a defect is an undesired result, which requires the desired result to not be met. The Examiner relies upon Applicant's Specification to provide for such guidance related to the desired result. However, Applicant's invention pertains to a process that produces less defects than a process that produces more defects (see Specification, p. 3, l. 30 through p. 4, l. 3). In lieu of defining a defect by having the claimed process recite differences to a second process by using imparting limitations from the Specification or by

adding claim language referring to a second process, the Examiner notes that defects are illustrated by Applicant's discussion of static being outside specific ranges (see Specification, p. 9, ll. 10-14). Therefore, for purposes of examination, the Examiner assumes the limitation as being "wherein the at least one antistatic agent does not cause a defect in a spunbonded nonwoven fabric produced by the spunbond process to the extent that the static level measured at about one half inch below the outlet of the slot attenuation device is between -2 and $2^{kV/in}$ ". Claims 2-5, 10, 11, 13-16, 18-20, 25, 26, 28, 36, and 38-40 are rejected via their dependency.

A) The effects of bicomponent fibers containing metal are desired to the extent recited above:

Tortora teaches that bicomponent fibers contain metal or carbon, which are antistatic agents (see page 401, forth paragraph, through page 402, line 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Tortora's antistatic metal or carbon in the composition of fibers taught by Gillespie in order to produce fibers that decrease static buildup (see Tortora, page 401, paragraphs 2-4), in order to control electrical properties (see Gillespie col. 5, lines 35-42), and because Gillespie teaches producing a desired product by combining polymers in the melt blend (see Gillespie, col. 4, lines 66 - col. 5, line 25).

A) Moreover, in discussing whether the references provide for the limitation that "the at least one antistatic agent does not cause a defect in the spunbonded nonwoven

fabric" by causing a defect of not having natural color, the declaration under 37 CFR 1.132 filed 6 December 2010 refers only to the system described in the above referenced application and not to the individual claims of the application. Thus, there is no showing that the objective evidence of nonobviousness is commensurate in scope with the claims. See MPEP § 716.

B) Gillespie is relied upon to teach the claimed limitation of an antistatic agent:

Gillespie teaches using combinations including nylon and polyester (see Gillespie, col. 4, lines 66 - col. 5, line 25). Increases in moisture absorbency increase fiber conductivity, which is antistatic since it limits static buildup, and nylon's or polyester's presence would improve the absorbency of the blend since they have 0.4-4.5% standard moisture regain (see Tortora, *Understanding Textiles*, pages 38 and 39, Table 2.1, and page 401, second paragraph). Thus, nylon's or polyester's presence acts as antistatic agents to the polyester or olefins in the blends.

B) Moreover, in discussing whether the references would require excessive moisture or insufficient process speed, the declaration under 37 CFR 1.132 filed 6 December 2010 refers only to the system described in the above referenced application and not to the individual claims of the application. Thus, there is no showing that the objective evidence of nonobviousness is commensurate in scope with the claims. See MPEP § 716.

C) A polyolefin fabric is not relied upon because, as recited above:

Gillespie teaches using combinations including nylon and polyester (see Gillespie, col. 4, lines 66 - col. 5, line 25).

C) Moreover, the blend would display blended properties and be processed at a temperature within their individual points rather than retaining set points of melting etc. This is illustrated by Gillespie's teaching that a blend of the polymers' melt temperatures is used (see col. 8, lines 45-53), which would obviate only processing at temperatures of 100-140 °C.

D) Gillespie's teaching of controlling splittable fibers is not relied upon for using an anti-static agent. As recited above:

If Gillespie's nylon (polycaprolactum) and polyester do not meet the claimed limitation of "antistatic agent" (see col. 4, lines 66 - col. 5, line 25), then Gillespie does teach to incorporate into the polymer melt components to control electrical properties (forming in an extruder) (see col. 5, lines 35-42).

Warburton teaches using a copolymer that contains sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) (see col. 4, line 60 through col. 5, line 6) and vinyl sulfonic acid (see col. 3, line 8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Warburton's copolymer composition in the extrusion of Gillespie in order to provide the product with better anti-soiling treatment, to control the anti-soiling treatment's polymer particle size (see Abstract and col. 4, lines 60 and 61), and because Gillespie teaches producing a desired product by

combining polymers in the melt blend (see Gillespie, col. 4, lines 66 - col. 5, line 25).

Alternative to Warburton, George teaches using a copolymer that contains sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) or octadecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) (see col. 4, line 65 through col. 5, line 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use George's copolymer composition in the extrusion of Gillespie in order to provide the product with better degree of absorption of water and body fluids (see George, Abstract; col. 1, lines 46-49; and col. 6, lines 42-59) and because Gillespie teaches producing a desired product by combining polymers in the melt blend (see Gillespie, col. 4, lines 66 - col. 5, line 25).

Since Applicant's claim language (see Claim 16) shows that a blend containing polycaprolactum, sulfonic acid, a C₁₀-C₁₈ alkane, and sodium salts is an antistatic agent, Warburton's and George's teaching of the agent (as cited above) necessarily meets the claimed limitation of "antistatic agent." Moreover, Warburton recognizes the benefit of the polymer in reducing static build-up (see col. 6, lines 34-37).

Applicant's specification indicates that a composition of a polycaprolactum, sulfonic acid, a C₁₀-C₁₈ alkane, and sodium salts added to a two polymer delivery results in 0.6 ^{kV}/_{in} when added at 1% concentration (see Specification, page 10, table 1).

As Warburton's composition teaches adding the sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) is present from 0.5-8% (see col. 5, lines 47-49), the 1% concentration is taught. As George's composition teaches adding the sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) is present from 0.01-5% (see col. 5, lines 47-49), the 1% concentration is taught. Therefore, Warburton's or George's agent would necessarily teach the claimed result of minimizing defects by reducing the static level measured at about one half inch below the outlet of the slot attenuation device from greater than 2 or less than -2 kV_{/in} to having a static level measured at about one half inch below the outlet of the slot attenuation device of -2 to 2 kV_{/in} as claimed principally because it teaches the same process and composition as Applicant, which arrived at said static level.

D) Moreover, as recited on Page 16 of the Office Action mailed 28 December 2007:

Since the motivation to combine the references is to produce fibers that decrease static buildup (see Tortora, page 401, paragraphs 2-4) and in order to control electrical properties (see Gillespie col. 5, lines 35-42), any loss of static charge in processing would be to optimize the final product's static build-up as well has help with control of the filaments during lay-down by helping control their electrical properties.

Moreover, it is not clear that the contribution of antistatic properties of Tortora in the final product would significantly affect the process of Gillespie.

E) The indication that additional variables contribute to the final fabric does not contest the cited motivation of nylon 6 as recited above:

With respect to Claim 3, Gillespie teaches using "nylon ... and copolymers thereof" (see col. 5, lines 5-8), which reads on the claim language "nylon copolymers," which meets the limitations of the claim.

Moreover, with respect to Claim 3, Tortora teaches that nylon 6 has a higher tenacity than nylon 6,6 (see page 156, *Strength* section). It would have been obvious to one of ordinary skill in the art at the time the invention was made to select nylon 6 as the nylon to use in Gillespie in order to have greater tenacity.

In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness.

Response to Arguments

Applicant's arguments filed 6 December 2010 have been fully considered, but they are not persuasive.

Applicant argues with respect to the 35 U.S.C. § 102(b) rejections. Applicant's arguments appear to be on the grounds that:

1) Claim 37 requires adding the antistatic agent in an amount sufficient such that the static level measured at about one half inch below the outlet of the slot attenuation device of -2 to 2 kV/in . Asserting Gillespie teaches each of the claimed steps does not

provide for teaching this limitation. Moreover, the claimed process's results are not met by Gillespie in view of Tortora.

Applicant argues with respect to the 35 USC 103(a) rejections. Applicant's arguments appear to be on the grounds that:

2) Gillespie does not teach adding the antistatic agent in an amount sufficient such that the static level measured at about one half inch below the outlet of the slot attenuation device of -2 to 2 kV/in. Asserting Gillespie teaches each of the claimed steps does not provide for teaching this limitation.

3) As indicated in the Declaration filed 6 December 2010, the claimed limitation of bonding at between 180 and about 250 °C would not be suitable for a polyolefin fabric, which is acknowledge by Gillespie. Specifically, Applicant relies upon evidence that extrusion of a polyolefin resin is usually done at 100-140 °C.

4) The reliance upon Tortora that spunbonding is necessarily done by bonding the filaments while they are partially molten is incorrect since extrusion temperature is not necessarily the bonding temperature.

5) A large amount of carbon black is required to see an appreciable anti-static effect. With such an amount, the carbon black would severely plug filters and packs, with would discourage its use.

6) As indicated in the Declaration under 37 CFR 1.132 filed 6 December 2010, the claim limitation of an antistatic agent that does not cause a defect in the fabric being produced is not met by the use of metal or carbon black.

7 and 9) As indicated in the Declaration under 37 CFR 1.132 filed 6 December 2010, Gillespie does not desire to control static to minimize static. Instead, a triboelectric charge is promoted to cause separation.

8) As indicated in the Declaration under 37 CFR 1.132 filed 6 December 2010, variables in addition to tenacity of nylon 6 and nylon 6,6 contribute to the tenacity of fabric tensile strength.

10) As indicated in the declaration of Albert E. Ortega under 37 CFR 1.132 filed 6 November 2009, Warburton's use of an aqueous dispersion would be recognized as causing problems due to depolymerizing polymers typically used in melt blends. Specifically, there is no motivation to add the material to a melt blend.

11) George teaches materials limited to use below 50 °C, which is below the processing of Gillespie's material.

12) As indicated in the declaration of Albert E. Ortega under 37 CFR 1.132 filed 6 November 2009, George's use of material containing water would be recognized as causing problems due to depolymerizing polymers typically used in melt blends. Specifically, there is no motivation to add the material to a melt blend.

The Applicant's arguments are addressed as follows:

1 and 2) Gillespie teaches using combinations including nylon and polyester (see Gillespie, col. 4, lines 66 - col. 5, line 25), and Gillespie does teach to incorporate into the polymer melt components to control electrical properties (forming in an extruder) (see col. 5, lines 35-42).

1 and 2) Moreover, the claimed limitation of the antistatic agent is present to an extent to provide a static level measured at about one half inch below the outlet of the slot attenuation device of -2 to 2 kV/in is based on a result of providing the antistatic agent. Thus, the recited component required by the claim is an antistatic agent. As indicated by the claim, presence of an antistatic agent is required to attain the static level measurement. Thus, as recited above:

Gillespie would necessarily teach the claimed results of minimizing defects by having a static level measured at about one half inch below the outlet of the slot attenuation device of -2 to 2 kV/in as claimed in Claim 37, minimizing defects by having a static level measured at about one half inch below the outlet of the slot attenuation device of -1 to 1 kV/in as claimed in Claims 38 and 40, and minimizing defects by reducing the static level measured at about one half inch below the outlet of the slot attenuation device from greater than 4 or less than -4 kV/in as claimed in Claim 39 principally because Gillespie teaches each of the claimed process steps.

1) Moreover, Tortora is not relied upon to anticipate the claims. Instead, within the 35 U.S.C. § 102(b) rejection, Tortora is relied upon as evidence.

2) As recited above:

If Gillespie's nylon and polyester do not meet the claimed limitation of "antistatic agent" (see col. 4, lines 66 - col. 5, line 25), then Gillespie does teach to incorporate into the polymer melt components to control electrical properties (forming in an extruder) (see col. 5, lines 35-42).

Tortora teaches that bicomponent fibers contain metal or carbon, which are antistatic agents (see page 401, forth paragraph, through page 402, line 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Tortora's antistatic metal or carbon in the composition of fibers taught by Gillespie in order to produce fibers that decrease static buildup (see Tortora, page 401, paragraphs 2-4), in order to control electrical properties (see Gillespie col. 5, lines 35-42), and because Gillespie teaches producing a desired product by combining polymers in the melt blend (see Gillespie, col. 4, lines 66 - col. 5, line 25).

Gillespie in view of Tortora would necessarily teach the claimed result of minimizing defects by reducing the static level measured at about one half inch below the outlet of the slot attenuation device from greater than 2 or less than -2 kV_{in} to having a static level measured at about one half inch below the outlet of the slot attenuation device of -2 to 2 kV_{in} as claimed principally because Gillespie teaches each of the claimed process steps.

3 and 6-9) The indications of the declaration under 37 CFR 1.132 filed 6 December 2010 are addressed in the Declaration section above.

4) As recited above, Gillespie and Tortora teach bonding at 180-250 °C:

Gillespie teaches that the filaments are bonded by calendaring and hot through-air methods (see col. 7, lines 29-37), which would either heat the filaments to the point of melting or collect the filaments at the point of melting, respectively. Moreover, spunbonding is necessarily done by bonding the

filaments while they partially molten (see Tortora, *Understanding Textiles*, page 330, first paragraph), and Gillespie's nylon 6 and polypropylene (see col. 8, lines 45-53) are molten above 212 and 163 °C (see Tortora, *Understanding Textiles*, page 38 and 39, Table 2.1).

If not otherwise expressed by Gillespie in view of Tortora to bond the fibers thermally within the claimed range (e.g., between 180 and about 250 °C), in this regard, Gillespie teaches that the filaments are bonded by calendaring and hot through-air methods (see col. 7, lines 29-37), which would either heat the filaments to the point of melting or collect the filaments at the point of melting, respectively, and Tortora teaches spunbonding done by bonding the filaments while they partially molten (see Tortora, *Understanding Textiles*, page 330, first paragraph). As such, Gillespie in view of Tortora recognizes that the bonding temperature is a result-effective variable. Since bonding temperature is a result-effective variable, one of ordinary skill in the art would have obviously been motivated to determine the optimum bonding temperature applied in the process of Gillespie in view of Tortora through routine experimentation based upon allowing the nylon 6 to be sufficiently heated to bond, which would be at least its molten temperature of 212 °C.

5) As recited on Page 17 of the Office Action mailed 26 February 2009:

- Blending carbon is feasible principally because Tortora's teaching does provide for forming bi-component fibers (see page 401, forth paragraph, through page 402, line 2).

- In response to the indication that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., carpet yarn formation and 25% carbon black) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).
- Moreover, it is noted that Tortora's teaching of bicomponent fibers containing metal, which is an antistatic agent (see page 401, forth paragraph, through page 402, line 2) is not disputed.

10) Gillespie is relied upon for teaching to incorporate into the polymer melt components to control electrical properties (forming in an extruder) (see col. 5, lines 35-42). Thus, discussion of Warburton's aqueous dispersion and water removal (see Warburton, col. 1, lines 44-56 and col. 8, lines 19-31) and motivation in Warburton to add static control material to a melt blend are moot. Warburton is relied upon for teach teaches using a copolymer that contains sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) (see col. 4, line 60 through col. 5, line 6) and vinyl sulfonic acid (see Warburton, col. 3, line 8).

11) As recited on page 18 of the Office Action mailed 26 February 2009, the blend would display blended properties and be processed at a temperature within their individual points rather than retaining set points of melting etc.:

Moreover, Gillespie teaches that a blend of the polymers' melt temperatures is used (see col. 8, lines 45-53), which would obviate processing at temperatures of 50 and 160 °C.

12) Gillespie is relied upon for teaching to incorporate into the polymer melt components to control electrical properties (forming in an extruder) (see col. 5, lines 35-42). Thus, discussion of George's water delivery system (see George, col. 7, line 45 through col. 8, line 10) and motivation in George to add static control material to a melt blend are moot. George is relied upon to each using a copolymer that contains sodium salts (sodium salts) of dodecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) or octadecane-1-sulfonic acid (a C₁₀-C₁₈ alkane and sulfonic acid) (see George, col. 4, line 65 through col. 5, line 9).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Butler whose telephone number is (571) 272-8517. The examiner can normally be reached on Mon.-Thu. 7:30 a.m.-5 p.m. and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. B./
Examiner, Art Unit 1742

/Christina Johnson/
Supervisory Patent Examiner, Art Unit 1742